

09/214198
JC05 Rec'd PCT/PTO 23 AUG 2001

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: TSUYOSHI SANO, ET AL.

Filed: AUGUST 23, 2001

For: INK JET RECORDING, METHOD USING SAME, AND RECORDING

Attorney Docket No.: U013609-7

Assistant Commissioner for Patents
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Please amend the above application as follows.

IN THE CLAIMS:

Claim 4 (amended) The ink set according to claim 1, characterized in that difference between ratio between resin weight proportion B_2 and pigment weight proportion P_2 (B_2/P_2) in said light ink composition, on one hand, and ratio between resin weight proportion B_1 and pigment weight proportion P_1 (B_1/P_1) in said dark ink composition, on other hand, is from 0.01 to 0.5.

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Claim 8 (amended) The ink set according to claim 5, characterized in that ratio between said fine polymer particle weight proportion E_1 , and pigment weight proportion P_1 (E_1/P_1) in said dark ink composition is 0.05 to 1.0 and ratio between said fine polymer particle weight proportion E_2 and pigment weight proportion P_2 (E_2/P_2) in said light ink composition is 0.2 to 4.0.

Claim 9 (amended) The ink set according to claim 1, characterized in that said dark ink composition is a cyan ink composition and/or a magenta ink composition is a light cyan ink composition and/or a light magenta ink composition.

Claim 12 (amended) The ink set according to claim 9, further comprising a yellow ink composition and/or a black ink composition.

Claim 16 (amended) The ink set according to claim 14, characterized in that total quantity of said pigment and said fine polymer particles contained in said water-based pigment inks, respectively, is 0.5 to 45 wt.%.

Claim 17 (amended) The ink set according to claim 14, characterized in that average particle size of said fine polymer particles is 5 to 200 nm.

Claim 18 (amended) The ink set according to claim 14, characterized in that glass transition temperature of said fine polymer particles is -15 to 10°C.

Claim 19 (amended) The ink set according to claim 14, characterized in that each of said water-based pigment inks of six different colors contains dispersant, and a content of this dispersant is 0.1 to 5 st.%.

Claim 21 (amended) The ink set according to claim 14, characterized in that surface tension in each of said water-based pigment inks of six different colors, is 15 to 50 mN/m.

Claim 22 (amended) The ink set according to claim 14, characterized in that said ink set is used in forming text and/or images on special ink jet recording paper.

DELETION REQUESTED

Claim 23 (amended) An ink jet recording method for performing printing by discharging liquid drops of an ink composition and causing said ink drops to adhere to a recording medium, characterized in that:

the ink composition of any of the ink sets cited in claim 1 is used as said ink composition.

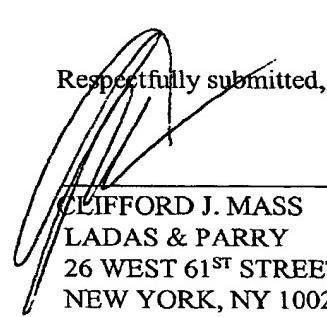
Claim 24 (amended) A recording characterized in that said recording is recorded by an ink jet recording method wherein liquid drops of an ink composition are discharged and those liquid drops are caused to adhere to a recording medium, using the ink set cited in claim 1.

Claim 25 (amended) An ink cartridge characterized in that the ink set cited in claim 1 is integrally accommodated therein.

REMARKS

The above amendatory action is taken solely for the purpose of avoiding claim fees that would otherwise accrue due to the presence of multiple dependent claims.

Respectfully submitted,


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4. The ink set according to [any one of] claim[s] 1 [to 3], characterized in that difference between ratio between resin weight proportion B_2 and pigment weight proportion P_2 (B_2/P_2) in said light ink composition, on one hand, and ratio between resin weight proportion B_1 and pigment weight proportion P_1 (B_1/P_1) in said dark ink composition, on other hand, is from 0.01 to 0.5.

8. The ink set according to [any one of] claim[s] 5 [to 7], characterized in that ratio between said fine polymer particle weight proportion E_1 and pigment weight proportion P_1 (E_1/P_1) in said dark ink composition is 0.05 to 1.0 and ratio between said fine polymer particle weight proportion E_2 and pigment weight proportion P_2 (E_2/P_2) in said light ink composition is 0.2 to 4.0.

9. The ink set according to [any one of] claim[s] 1 [to 8], characterized in that said dark ink composition is a cyan ink composition and/or a magenta ink composition is a light cyan ink composition and/or a light magenta ink composition.

12. The ink set according to [any one of] claim[s] 9 [to 11], further comprising a yellow ink composition and/or a black ink composition.

16. The ink set according to claim 14 [or claim 15], characterized in that total quantity of said pigment and said fine polymer particles contained in said water-based pigment inks, respectively, is 0.5 to 45 wt.%.

17. The ink set according to [any one of] claim[s] 14 [to 16], characterized in that average particle size of said fine polymer particles is 5 to 200 nm.

18. The ink set according to [any one of] claim[s] 14 [to 17], characterized in that glass transition temperature of said fine polymer particles is -15 to 10°C.

19. The ink set according to any one of claim[s] 14 [to 18], characterized in that each of said water-based pigment inks of six different colors contains dispersant, and a content of this dispersant is 0.1 to 5 st.%.
21. The ink set according to any one of claim[s] 14 [to 20], characterized in that surface tension in each of said water-based pigment inks of six different colors, is 15 to 50 mN/m.
22. The ink set according to claim any one of claim[s] 14 [to 21], characterized in that said ink set is used in forming text and/or images on special ink jet recording paper.
23. An ink jet recording method for performing printing by discharging liquid drops of an ink composition and causing said ink drops to adhere to a recording medium, characterized in that:
the ink composition of any of the ink sets cited in claim[s] 1 [to 22] is used as said ink composition.
24. A recording characterized in that said recording is recorded by an ink jet recording method wherein liquid drops of an ink composition are discharged and those liquid drops are caused to adhere to a recording medium, using the ink set cited in claim[s] 1 [to 22].
25. An ink cartridge characterized in that the ink set cited in [any one of] claim[s] 1 [to 22] is integrally accommodated therein.